

BOOK REVIEW

MEDITERRANEAN DESERTIFICATION AND LAND USE edited by C. Jane Brandt and John B. Thornes, John Wiley, Chichester 1996. No. of pages: 554. Price: £80.00 (hb). ISBN 0-471-94250-2

This book presents data from the first phase (1991–1992) of the MEDALUS (Mediterranean Desertification and Land Use) Project funded by the European Union and co-ordinated by Professor John Thornes. Seventy-five researchers (23 based in the UK) have contributed to this volume of 21 chapters, which presents the initial results from several teams engaged in the development of fieldwork and/or modelling strategies at a range of scales. It also describes the processes of land degradation in the context of natural and anthropogenic environmental change and presents various models designed to assess the potential impact of future climate scenarios on vegetation dynamics and geomorphological processes. One of the goals of the project is to establish a protocol for the designation of Desertification Sensitive Areas (DSAs) and to provide information to guide regional policies.

Field data collection is centred on eight MEDALUS core field sites where detailed monitoring efforts are attempting to evaluate the influence of precipitation, slope character, soil properties, lithology and land use (vegetation cover) on runoff patterns and soil erosion. This project is largely concerned with land degradation processes relating to water erosion and the field sites are located in the mainly low-elevation, semiarid to subhumid parts of the European Mediterranean. Six of the eight field sites are located in the northwestern Mediterranean basin and there are two sites in eastern Greece; there are no field sites on mainland Italy or on the western side of the Balkan peninsula.

The development of the MEDALUS database is especially important because the existing database on soil profile, hillslope and catchment processes in Mediterranean countries is rather sparse. Reliable discharge records are not available for many Mediterranean rivers and the quality of basic hydrological monitoring networks is extremely variable. The MEDALUS field stations have largely focused on quantifying the dynamics of rainfall, runoff, biomass and soil erosion at the hillslope scale to improve our understanding of these fundamental processes and to supply the modellers with reliable data.

The book contains important, detailed review chapters outlining the rationale and structure of the MEDALUS Slope Catena Model (Kirkby *et al.*), and the application of the SHETRAN model to Mediterranean catchments (Bath-

urst *et al.*). Overall, it contains many well written, high quality research papers and deals with some key conceptual and methodological issues with relevance far beyond the boundaries of the European Mediterranean. However, the quality of the figures in some papers is rather variable with several line diagrams reproduced from evidently over-worked dot matrix printers. Several figures in Chapter 20 use the same line style for different parameters and black and white satellite images have not reproduced well. While these are minor irritations for a reviewer whose copy is complimentary, they are certainly avoidable, and those who pay the hardback price of £80.00 deserve better.

One of the key issues confronting the MEDALUS programme involves the effective scaling-up of the empirical and modelling work on hillslopes and small catchments to derive regionally valid predictions of the impact of climate change. The following gem was found buried in the acknowledgements to Chapter 14 on the MEDALUS Slope Catena Model: 'Models may be able to exist in isolation but their credibility can only be built on exacting field studies. Good models have the power to generalise from a small number of field studies, but good fieldwork can destroy a model overnight. . .'

In the final chapter, John Thornes outlines the emerging themes, and stresses the need to place local site-specific studies in their proper context as the team address the larger scale dimensions of the project. The Mediterranean basin is a dynamic and complex environment, and desertification caused by water erosion is only one of the problems facing the region. Much of the region is dominated by humid and flood-prone mountainous catchments and the impact of environmental change in these distinctive environments is also a vital consideration for shaping future regional policies.

This is an important book that should be consulted by those interested in water erosion and land-use dynamics more generally, and the development and validation of geomorphological and climatological models. The book will also be of interest to those concerned with Mediterranean environments, and monitoring catchment characteristics and processes at a range of scales from field plots to satellite images. The various phases of the MEDALUS project represent an impressive achievement in multinational and interdisciplinary collaboration and co-ordination, and the final outcomes of the project are eagerly awaited.

JAMIE WOODWARD
School of Geography, University of Leeds